

## PATENT COOPERATION TREATY

PCT

## NOTIFICATION OF ELECTION

(PCT Rule 61.2)

From the INTERNATIONAL BUREAU

To:

Assistant Commissioner for Patents  
 United States Patent and Trademark  
 Office  
 Box PCT  
 Washington, D.C. 20231  
 ETATS-UNIS D'AMERIQUE

in its capacity as elected Office

<b>Date of mailing (day/month/year)</b> 19 July 2000 (19.07.00)	
<b>International application No.</b> PCT/GB99/03858	<b>Applicant's or agent's file reference</b>
<b>International filing date (day/month/year)</b> 22 November 1999 (22.11.99)	<b>Priority date (day/month/year)</b> 03 December 1998 (03.12.98)
<b>Applicant</b> LANZUELA DE ALVARO, Francisco et al	

1. The designated Office is hereby notified of its election made:

☒ in the demand filed with the International Preliminary Examining Authority on:

15 June 2000 (15.06.00)

☐ in a notice effecting later election filed with the International Bureau on:2. The election ☒ was☐ was not

made before the expiration of 19 months from the priority date or, where Rule 32 applies, within the time limit under Rule 32.2(b).

<b>The International Bureau of WIPO</b> 34, chemin des Colombettes 1211 Geneva 20, Switzerland Facsimile No.: (41-22) 740.14.35	<b>Authorized officer</b> Pascal Piriou Telephone No.: (41-22) 338.83.38
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## PATENT COOPERATION TREATY

PCT

From the INTERNATIONAL BUREAU

NOTIFICATION OF THE RECORDING  
OF A CHANGE(PCT Rule 92bis.1 and  
Administrative Instructions, Section 422)

To:

WISHART, Ian, Carmichael  
Johnson Matthey Technology Centre  
Blounts Court  
Sonning Common  
Reading RG4 9NH  
ROYAUME-UNI

Date of mailing (day/month/year)

30 juillet 2001 (30.07.01)

Applicant's or agent's file reference

## IMPORTANT NOTIFICATION

International application No.

PCT/GB99/03858

International filing date (day/month/year)

22 novembre 1999 (22.11.99)

## 1. The following indications appeared on record concerning:

☒

the applicant

☒

the inventor

☐

the agent

☐

the common representative

Name and Address

PETCH, Michael, Ian  
57 Barnsdale Road  
Reading RG2 7JG  
United Kingdom

State of Nationality

GB

State of Residence

GB

Telephone No.

Facsimile No.

Teleprinter No.

## 2. The International Bureau hereby notifies the applicant that the following change has been recorded concerning:

☐

the person

☐

the name

☒

the address

☐

the nationality

☐

the residence

Name and Address

PETCH, Michael, Ian  
14 Portrush Close  
Woodley  
Reading RG5 3PB  
United Kingdom

State of Nationality

GB

State of Residence

GB

Telephone No.

Facsimile No.

Teleprinter No.

## 3. Further observations, if necessary:

## 4. A copy of this notification has been sent to:

☒

the receiving Office

☐

the International Searching Authority

☐

the International Preliminary Examining Authority

☐

the designated Offices concerned

☒

the elected Offices concerned

☐

other:

The International Bureau of WIPO  
34, chemin des Colombettes  
1211 Geneva 20, Switzerland

Authorized officer

I. Britel

Facsimile No.: (41-22) 740.14.35

Telephone No.: (41-22) 338.83.38

# PATENT COOPERATION TREATY

# PCT

## INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

Applicant's or agent's file reference	<b>FOR FURTHER ACTION</b> <small>see Notification of Transmittal of International Search Report (Form PCT/ISA/220) as well as, where applicable, item 5 below.</small>	
International application No. <b>PCT/GB 99/ 03858</b>	International filing date (day/month/year) <b>22/11/1999</b>	(Earliest) Priority Date (day/month/year) <b>03/12/1998</b>
Applicant  <b>JOHNSON MATTHEY PUBLIC LIMITED COMPANY et al.</b>		

This International Search Report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.

This International Search Report consists of a total of 3 sheets.  
☒ It is also accompanied by a copy of each prior art document cited in this report.

**1. Basis of the report**

a. With regard to the language, the international search was carried out on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.

☐ the international search was carried out on the basis of a translation of the international application furnished to this Authority (Rule 23.1(b)).

b. With regard to any nucleotide and/or amino acid sequence disclosed in the international application, the international search was carried out on the basis of the sequence listing:

☐ contained in the international application in written form.

☐ filed together with the international application in computer readable form.

☐ furnished subsequently to this Authority in written form.

☐ furnished subsequently to this Authority in computer readable form.

☐ the statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.

☐ the statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished

2. ☐ Certain claims were found unsearchable (See Box I).

3. ☐ Unity of invention is lacking (see Box II).

**4. With regard to the title,**

☒ the text is approved as submitted by the applicant.

☐ the text has been established by this Authority to read as follows:

**5. With regard to the abstract,**

☐ the text is approved as submitted by the applicant.

☒ the text has been established, according to Rule 38.2(b), by this Authority as it appears in Box III. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority.

**6. The figure of the drawings to be published with the abstract is Figure No.**

☒ as suggested by the applicant.

☐ because the applicant failed to suggest a figure.

☐ because this figure better characterizes the invention.

1  
☐ None of the figures.

# INTERNATIONAL SEARCH REPORT

International application No.

PCT/GB 99/ 03858

Box III TEXT OF THE ABSTRACT (Continuation of Item 5 of the first sheet)

A substrate, such as a plate or catalyst monolith, may be coated with a metal oxide, particularly with a zeolite, by treating the substrate with a polyelectrolyte to form a coating, and then depositing the coating of metal oxide from an aqueous slurry. A continuous coating, which may incorporate many layers, can easily be formed. In the examples polyacrylamide is used as polyelectrolyte.

# INTERNATIONAL SEARCH REPORT

International Application No

PCT/GB 99/03858

## A. CLASSIFICATION OF SUBJECT MATTER

IPC 7 B01J37/02

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 B01J

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	DE 35 26 383 C (DIDER-WERKE AG) 11 December 1986 (1986-12-11) example 1 column 2, line 60 -column 3, line 63 ---	1, 3, 4, 6, 8
X	DE 23 00 932 A (FUJI PHOTO FILM CO LTD) 19 July 1973 (1973-07-19) the whole document ---	1, 2, 5
A	EP 0 266 257 A (RHONE POULENC CHIMIE) 4 May 1988 (1988-05-04) -----	1, 3, 5-8

☐ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

\* Special categories of cited documents:

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier document but published on or after the international filing date

"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art

"&" document member of the same patent family

Date of the actual completion of the international search

28 February 2000

Date of mailing of the international search report

10/03/2000

Name and mailing address of the ISA

European Patent Office, P.B. 5818 Patentlaan 2  
NL - 2280 HV Rijswijk  
Tel. (+31-70) 340-2040, Tx. 31 651 epo nl,  
Fax: (+31-70) 340-3016

Authorized officer

Zuurdeeg, B

# INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/GB 99/03858

Patent document cited in search report		Publication date		Patent family member(s)		Publication date
DE 3526383	C	11-12-1986	AT	38941 T		15-12-1988
			DD	248517 A		12-08-1987
			EP	0213271 A		11-03-1987
			ES	2000470 A		01-11-1991
			US	4806427 A		21-02-1989
<hr/>						
DE 2300932	A	19-07-1973	JP	48075295 A		11-10-1973
<hr/>						
EP 0266257	A	04-05-1988	FR	2605531 A		29-04-1988
			DK	558887 A		28-04-1988
			JP	63178850 A		22-07-1988
			US	4891350 A		02-01-1990
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## PATENT COOPERATION TREATY

PCT

REC'D 09 MAR 2001

## INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference PFC 1437 PCT	<b>FOR FURTHER ACTION</b> See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416)	
International application No. PCT/GB99/03858	International filing date (day/month/year) 22/11/1999	Priority date (day/month/year) 03/12/1998
International Patent Classification (IPC) or national classification and IPC B01J37/02		
Applicant JOHNSON MATTHEY PUBLIC LIMITED COMPANY et al.		

1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.



2. This REPORT consists of a total of 4 sheets, including this cover sheet.

- ☒ This report is also accompanied by ANNEXES, i.e. sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).

These annexes consist of a total of 5 sheets.

3. This report contains indications relating to the following items:

- I ☒ Basis of the report
- II ☐ Priority
- III ☐ Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- IV ☐ Lack of unity of invention
- V ☒ Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- VI ☐ Certain documents cited
- VII ☐ Certain defects in the international application
- VIII ☐ Certain observations on the international application

Date of submission of the demand  15/06/2000	Date of completion of this report  06.03.2001
Name and mailing address of the international preliminary examining authority:   European Patent Office D-80298 Munich Tel. +49 89 2399 - 0 Tx: 523656 epmu d Fax: +49 89 2399 - 4465	Authorized officer  Nazario, L  Telephone No. +49 89 2399 8137  

# INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No. PCT/GB99/03858

## I. Basis of the report

1. This report has been drawn on the basis of *(substitute sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to the report since they do not contain amendments (Rules 70.16 and 70.17).):*

### Description, pages:

4-6	as originally filed	
1-3,3a	with telefax of	07/11/2000

### Claims, No.:

1-8	with telefax of	07/11/2000
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### Drawings, sheets:

1/1	as originally filed
-----	---------------------

2. With regard to the **language**, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language: , which is:

- ☐ the language of a translation furnished for the purposes of the international search (under Rule 23.1(b)).
- ☐ the language of publication of the international application (under Rule 48.3(b)).
- ☐ the language of a translation furnished for the purposes of international preliminary examination (under Rule 55.2 and/or 55.3).

3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

- ☐ contained in the international application in written form.
- ☐ filed together with the international application in computer readable form.
- ☐ furnished subsequently to this Authority in written form.
- ☐ furnished subsequently to this Authority in computer readable form.
- ☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
- ☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. The amendments have resulted in the cancellation of:



# INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No. PCT/GB99/03858

- ☐ the description,      pages:
- ☐ the claims,          Nos.:
- ☐ the drawings,        sheets:

5. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed (Rule 70.2(c)):

*(Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.)*

6. Additional observations, if necessary:

## V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

### 1. Statement

Novelty (N)	Yes:	Claims
	No:	Claims 1-8
Inventive step (IS)	Yes:	Claims
	No:	Claims 1-8
Industrial applicability (IA)	Yes:	Claims 1-8
	No:	Claims

2. Citations and explanations  
**see separate sheet**

**INTERNATIONAL PRELIMINARY  
EXAMINATION REPORT - SEPARATE SHEET**

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International application No. PCT/GB99/03858

**Re Item V**

**Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

1. Reference is made to the following documents:

D1: EP-A-0 878 233 (cited by the applicant in the description)

D2: DE-C-35 26 383

2. D1 and D2 disclose methods which comprise coating a metal or ceramic substrate with metal oxides using a polyelectrolyte. The required polyelectrolyte can be a polyacrylamide. The coatings disclosed include, for example, zeolites and alumina. The documents also disclose supported catalysts comprising a particle coated with a metal oxide. (D1, abstract; col. 1, lines 3-6 and 52-54; col. 2, lines 3-7, 28-45, cl. 1, 6, 11; D2, abstract, col. 3, lines 23-49, col. 4, lines 7-57, cl.1).

Although, in the case of D1, the zeolite particles are formed *in-situ*, it remains that the substrate is coated with a polyelectrolyte and subsequently coated with the zeolite particles. The applicant's attention is drawn to the fact that the polyelectrolyte concentration disclosed in D2 falls within the range disclosed in the description of the present application (see page 2, line 14) as being suitable for the coating of the substrates.

Therefore, the subject-matter of claims 1-8 is not novel and does not fulfill the requirements of article 33(2) PCT.

From the  
INTERNATIONAL PRELIMINARY EXAMINING AUTHORITY

To:

WISHART, Ian Carmichael  
JOHNSON MATTHEY TECHNOLOGY CENTRE  
Blounts Court  
Sonning Common  
Reading RG4 9NH  
GRANDE BRETAGNE

**RECEIVED**

08 MAR 2001

**PCT**

NOTIFICATION OF TRANSMITTAL OF  
THE INTERNATIONAL PRELIMINARY  
EXAMINATION REPORT  
(PCT Rule 71.1)

Date of mailing  
(day/month/year) 06.03.2001

Applicant's or agent's file reference  
PFC 1437 PCT

**IMPORTANT NOTIFICATION**

International application No.  
PCT/GB99/03858

International filing date (day/month/year)  
22/11/1999

Priority date (day/month/year)  
03/12/1998

Applicant  
JOHNSON MATTHEY PUBLIC LIMITED COMPANY et al.

1. The applicant is hereby notified that this International Preliminary Examining Authority transmits herewith the international preliminary examination report and its annexes, if any, established on the international application.
2. A copy of the report and its annexes, if any, is being transmitted to the International Bureau for communication to all the elected Offices.
3. Where required by any of the elected Offices, the International Bureau will prepare an English translation of the report (but not of any annexes) and will transmit such translation to those Offices.

**4. REMINDER**

The applicant must enter the national phase before each elected Office by performing certain acts (filing translations and paying national fees) within 30 months from the priority date (or later in some Offices) (Article 39(1)) (see also the reminder sent by the International Bureau with Form PCT/IB/301).

Where a translation of the international application must be furnished to an elected Office, that translation must contain a translation of any annexes to the international preliminary examination report. It is the applicant's responsibility to prepare and furnish such translation directly to each elected Office concerned.

For further details on the applicable time limits and requirements of the elected Offices, see Volume II of the PCT Applicant's Guide.

Name and mailing address of the IPEA/



European Patent Office  
D-80298 Munich  
Tel. +49 89 2399 - 0 Tx: 523656 epmu d  
Fax: +49 89 2399 - 4465

Authorized officer

Michaleczek, N

Tel. +49 89 2399-7254





## PATENT COOPERATION TREATY

## PCT

## INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference <b>PFC 1437 PCT</b>		<b>FOR FURTHER ACTION</b> See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416)			
International application No. <b>PCT/GB99/03858</b>	International filing date (day/month/year) <b>22/11/1999</b>	Priority date (day/month/year) <b>03/12/1998</b>			
International Patent Classification (IPC) or national classification and IPC <b>B01J37/02</b>					
Applicant <b>JOHNSON MATTHEY PUBLIC LIMITED COMPANY et al.</b>					
<p>1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.</p> <p>2. This REPORT consists of a total of 4 sheets, including this cover sheet.</p> <p><input checked="" type="checkbox"/> This report is also accompanied by ANNEXES, i.e. sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).</p> <p>These annexes consist of a total of 5 sheets.</p>					
<p>3. This report contains indications relating to the following items:</p> <ul style="list-style-type: none"><li>I <input checked="" type="checkbox"/> Basis of the report</li><li>II <input type="checkbox"/> Priority</li><li>III <input type="checkbox"/> Non-establishment of opinion with regard to novelty, inventive step and industrial applicability</li><li>IV <input type="checkbox"/> Lack of unity of invention</li><li>V <input checked="" type="checkbox"/> Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement</li><li>VI <input type="checkbox"/> Certain documents cited</li><li>VII <input type="checkbox"/> Certain defects in the international application</li><li>VIII <input type="checkbox"/> Certain observations on the international application</li></ul>					
Date of submission of the demand  <b>15/06/2000</b>		Date of completion of this report  <b>06.03.2001</b>			
Name and mailing address of the international preliminary examining authority:   <b>European Patent Office D-80298 Munich Tel. +49 89 2399 - 0 Tx: 523656 epmu d Fax: +49 89 2399 - 4465</b>		Authorized officer  <b>Nazario, L</b>  Telephone No. <b>+49 89 2399 8137</b>  			

**INTERNATIONAL PRELIMINARY  
EXAMINATION REPORT**

International application No. PCT/GB99/03858

**I. Basis of the report**

1. This report has been drawn on the basis of *(substitute sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to the report since they do not contain amendments (Rules 70.16 and 70.17).):*

**Description, pages:**

4-6 as originally filed  
1-3,3a with telefax of 07/11/2000

**Claims, No.:**

1-8 with telefax of 07/11/2000

**Drawings, sheets:**

1/1 as originally filed

2. With regard to the **language**, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language: , which is:

- ☐ the language of a translation furnished for the purposes of the international search (under Rule 23.1(b)).  
☐ the language of publication of the international application (under Rule 48.3(b)).  
☐ the language of a translation furnished for the purposes of international preliminary examination (under Rule 55.2 and/or 55.3).

3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

- ☐ contained in the international application in written form.  
☐ filed together with the international application in computer readable form.  
☐ furnished subsequently to this Authority in written form.  
☐ furnished subsequently to this Authority in computer readable form.  
☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.  
☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. The amendments have resulted in the cancellation of:

**INTERNATIONAL PRELIMINARY  
EXAMINATION REPORT**

International application No. PCT/GB99/03858

- ☐ the description, pages:  
☐ the claims, Nos.:  
☐ the drawings, sheets:

5. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed (Rule 70.2(c)):

*(Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.)*

6. Additional observations, if necessary:

**V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

1. Statement

Novelty (N)	Yes:	Claims
	No:	Claims 1-8
Inventive step (IS)	Yes:	Claims
	No:	Claims 1-8
Industrial applicability (IA)	Yes:	Claims 1-8
	No:	Claims

2. Citations and explanations  
**see separate sheet**

**INTERNATIONAL PRELIMINARY  
EXAMINATION REPORT - SEPARATE SHEET**

International application No. PCT/GB99/03858

**Re Item V****Reasoned statement under Article 35(2) with regard to novelty, inventive step or  
Industrial applicability; citations and explanations supporting such statement**

1. Reference is made to the following documents:

D1: EP-A-0 878 233 (cited by the applicant in the description)

D2: DE-C-35 26 383

2. D1 and D2 disclose methods which comprise coating a metal or ceramic substrate with metal oxides using a polyelectrolyte. The required polyelectrolyte can be a polyacrylamide. The coatings disclosed include, for example, zeolites and alumina. The documents also disclose supported catalysts comprising a particle coated with a metal oxide. (D1, abstract; col. 1, lines 3-6 and 52-54; col. 2, lines 3-7, 28-45, cl. 1, 6, 11; D2, abstract, col. 3, lines 23-49, col. 4, lines 7-57, cl.1).

Although, in the case of D1, the zeolite particles are formed *in-situ*, it remains that the substrate is coated with a polyelectrolyte and subsequently coated with the zeolite particles. The applicant's attention is drawn to the fact that the polyelectrolyte concentration disclosed in D2 falls within the range disclosed in the description of the present application (see page 2, line 14) as being suitable for the coating of the substrates.

Therefore, the subject-matter of claims 1-8 is not novel and does not fulfill the requirements of article 33(2) PCT.